



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:  
OSB2000-0295

April 20, 2001

Mr. Lawrence C. Evans  
U.S. Army Corps of Engineers  
Portland District, CENWP-CO-GP  
PO Box 2946  
Portland, Oregon 97208-2946

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation on a Wetland Restoration Project in the Coquille River Estuary, Coos County, Oregon (Corps No. 2000-00739)

Dear Mr. Evans:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act on the issuance of a permit for a wetland restoration project under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The NMFS concludes in this Opinion that the proposed action is not likely to jeopardize the subject species or destroy or adversely modify critical habitat. NMFS has also included reasonable and prudent measures with non-discretionary terms and conditions that are necessary and appropriate to minimize the potential for incidental take associated with this project. In addition, this document also serves as consultation on Essential Fish Habitat under Public Law 104-267, the Sustainable Fisheries Act of 1996, as it amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Questions regarding this letter should be directed to Nikki Moore of my staff in the Oregon State Branch Office at 541.751.4420.

Sincerely,

P.1

Donna Darm  
Acting Regional Administrator

cc: Mike McCabe, Oregon Division of State Lands  
Michael Gray, Oregon Department of Fish and Wildlife  
Steve Wille, U.S. Fish and Wildlife Service  
Michael Scalici, Natural Resources Consulting

Endangered Species Act  
Section 7 Consultation  
and  
Magnuson-Stevens Act  
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Wetland Restoration Project in the Coquille River Estuary  
Coos County, Oregon  
(Corps No. 2000-00739)

Agency: U.S. Army Corps of Engineers

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: April 20, 2001

**Refer to:** OSB2000-0295

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# **1. ENDANGERED SPECIES ACT**

## **1.1. Background**

On October 19, 2000, the National Marine Fisheries Service (NMFS) received a request from the U.S. Army Corps of Engineers (Corps) for Endangered Species Act (ESA) section 7 informal consultation on the issuance of a permit for a wetland restoration project on the Coquille River Estuary near Bandon, Oregon, under Section 10 of the Rivers and Harbors act and Section 404 of the Clean Water Act. The NMFS did not concur with the not likely to adversely affect determination for Oregon Coast (OC) coho salmon, and the Corps was notified (per communications with Ron Marg, Corps, 3/28/01). The applicant (Port of Bandon) is responsible for administering funds and for the project contract. The biological assessment (BA) was prepared by the Port of Bandon. This Opinion is based on the March 13, 2001 BA, prior informal consultation, a site visit by NMFS staff on October 30, 2000, and conversations with NMFS engineers and Oregon Department of Fish and Wildlife (ODFW) staff.

Historically, the existing Coquille River wetland restoration area had a functional inlet that allowed intertidal water to reach the six acre wetland. Through that inlet, the wetland provided rearing and feeding areas for fish and wildlife dependant on this type of habitat. Because of disturbances such as the construction of the jetty and the introduction of European beach grass, the wetland and inlet channels have become disconnected over time. Because of a reduced inundation frequency, the estuarine wetland has been transformed into a seasonal wetland. The proposed project is to reconnect a constructed channel network from the Coquille River to the six acre wetland.

The project site is located along the Coquille River Estuary at River Mile 2.0, adjacent to Bandon, Oregon. Construction is scheduled for the spring and/or fall of 2001. The ODFW instream work window is from October 1 to February 15. Any extensions of the in-water work period must be approved by, and coordinated with, NMFS and ODFW.

The NMFS has determined that the proposed action is likely to adversely affect OC coho salmon (*Oncorhynchus kisutch*). The Corps has also determined that Oregon Coast (OC) coho salmon do not typically occur within the project area, but may utilize the project area once completed. In Oregon coastal streams south of the Columbia River and north of Cape Blanco, including Coquille River tributaries, the NMFS listed OC coho salmon under the ESA as threatened on August 10, 1998 (63 FR 42587), and critical habitat for this species was designated on February 16, 2000 (65 FR 7764). Protective regulations for OC coho were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 4421). This consultation is undertaken under section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402.

The objective of this biological opinion (Opinion) is to determine whether the proposed action to construct channels and reconnect the Coquille River to the wetland is likely to jeopardize the continued existence of the OC coho salmon or destroy or adversely modify its critical habitat.

## **1.2. Proposed Action**

The applicant (City of Bandon) proposes to connect constructed stream channels to an existing six acre wetland with the Coquille River to restore historic tidal channel networks. In 1999, phase one of the wetland restoration project was completed, which included opening old channels to the Coquille River and constructing about 500-feet of wetland connection channels (all channels are 20-50 feet wide). Phase two involves construction of additional channels connecting the six acre wetland to the Coquille River, and connecting the channels constructed in 1999 with those constructed in 2000. All channel construction work for phase two has been completed, with connection of the channels constructed in 2000 to the Coquille River and connection of the channels constructed in 1999 all that remains. In phase two, the applicant constructed 1000 feet of new channels, since a Corps permit was not needed for this portion of the work, leaving the final permit-related work for last. The proposed project is to remove the materials (sand, topsoil and overburden vegetation) at the terminus of the channels constructed in 2000, which prevents the Coquille River from accessing the six acre wetland, thus allowing intertidal water to inundate the six acre wetland. A connection of the channels constructed in 2000 to the channels constructed in 1999 would also be permitted by this action. A track hoe would be used to excavate the remainder of the new stream channels, which occur through low elevation sand dunes. The new channel network would be a perennial, tidally-flooded wetland, with a small number of constructed pools two to four feet deep and three to five feet wide scattered throughout.

Excavated material from the project area would consist of thin, fibrous sod of wetland plants underlain by recent wind-blown sand. Sod clumps would be used at newly graded shorelines in the project area to re-establish vegetation. The remainder of the dredged material (primarily sand) would be placed upland. Logs, gravel, brush, and oyster shells would be placed in the channel and on the bank as grade control structures and to reduce velocities during flood and ebb tides. The applicant also proposes to pull back actively eroding banks at the entrance cove to the project area. Thin mats of meadow sod, excavated from the project site would be used to re-establish vegetation and trap debris. The applicant will also plant willows and other native vegetation following construction. As a conservation measure, the applicant will complete the project within the ODFW instream work period of October 1 to February 15, or an ODFW authorized departure from the window. Additionally, the applicant will complete all work during low tides to minimize and/or eliminate turbidity. Prior to construction activities, erosion control measures will be installed at the site. This will include placing hay bales within the stream channel when connecting dry excavated channels to the Coquille River.

## **1.3. Biological Information and Critical Habitat**

The Oregon Coast (OC) coho salmon Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on August 10, 1998 (63 FR 42587). NMFS described the current population status of OC coho salmon in a status review (Weitkamp *et al.* 1995), and in the final listing rule (August 10, 1998, 63 FR 42587). Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from 1965 to 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). In 1990, spawner abundance within the Oregon Coast ESU was estimated to be 16,500. Abundance increased between 1992 and 1996 with an abundance in 1996 of 59,453.

Abundance declined again in 1997 and 1998 to 14,068 and 19,816 spawners; respectively (ODFW Coastal Salmonid Inventory, 2000). Spawning escapements for this ESU may be at less than 5% of abundance in the early 1900's. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al.* 1992). Average recruits-per-spawner may also be declining. The OC coho salmon ESU, although not at immediate risk of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995). Within the Coquille Basin, returns of wild adult coho salmon have declined from highs of 16,169 in 1996 to 3,021 in 1999 (ODFW Coastal Salmonid Inventory, 2000).

Critical habitat was designated for the OC coho salmon on February 16, 2000 (65 FR 7764). Critical habitat for OC coho salmon ESU encompasses the major coastal tributaries between the Columbia River and Cape Blanco (exclusive of the Columbia River) known to support this ESU, including the Umpqua, Coos, Coquille, Siuslaw, and Nehalem rivers. Critical habitat consists of all waterways below long-standing, naturally impassable barriers, including the project area. The adjacent riparian zone is also considered critical habitat. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter. Protective regulations for OC coho were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 4421).

#### **1.4. Evaluating Proposed Actions**

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of: 1) Defining the biological requirements and current status of the listed species; and 2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: 1) Collective effects of the proposed or continuing action; 2) the environmental baseline; and 3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the

action will destroy or adversely modify critical habitat it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for juvenile and adult migration, spawning, and rearing of OC coho salmon under the existing environmental baseline.

#### **1.4.1. Biological Requirements**

The first step in the methods the NMFS uses for applying the ESA section 7(a)(2) to listed OC coho is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NMFS starts with the determinations made in its decision to list OC coho for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for OC coho to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment. For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing.

OC coho salmon utilize the Coquille Estuary as a migration corridor. Adults migrate through the estuary from September through December. Coho juveniles typically rear in freshwater tributaries. Coho salmon smolts would migrate through the estuary from spring to early summer and utilize the estuary for feeding and as transition habitat from fresh to salt water.

#### **1.4.2. Environmental Baseline**

The current range-wide status of the identified ESU may be found in Weitkamp et al. 1995. The identified action will occur within the range of OC coho. The defined action area is the area that is directly and indirectly affected by the proposed action. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, stream hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect affects may occur throughout the watershed, where actions described in this Opinion lead to additional activities, or affect ecological functions, contributing to stream degradation. As such, the action area for the proposed activities include the immediate portions of the watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this Opinion, the action area is defined as the six acre wetland area and newly constructed channels, and downstream 100-feet within the Coquille Estuary.

The action area is adjacent to and connected to the Coquille River estuary. The Coquille River estuary is also adjacent to Bandon, Oregon, approximately two river miles upstream from the Pacific Ocean and on the opposite side of the estuary from the project site. The wetland restoration area is on a spit on the north side of the river near Bullards Beach State Park.

Land use near the project site consists of a developed area from the state park, and development of the spit to create the Coquille bar. Historically, the wetland area was characterized by tidally-influenced, extensive marshes which provided abundant salmonid rearing and foraging areas. The estuary, and in particular the vicinity of the project area, has undergone extensive changes since European American settlement. Development and the introduction of non-native vegetation has altered terrestrial and aquatic habitat and reduced aquatic resources.

Based on the best available information on the current status of OC coho range-wide; the population status, trends, and genetics; and the poor environmental baseline conditions within the action area (as described in the BA), NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. Numbers of OC coho salmon are substantially below historic numbers. Long-term trends are decreasing. Degraded freshwater habitat conditions have also contributed to the decline.

Use of the NMFS Matrix of Pathways and Indicators (NMFS 1996) identified the following habitat indicators as either at risk or not properly functioning within the action area: Physical barriers, large woody debris, refugia, floodplain connectivity, change in peak/base flows, drainage network increase, riparian reserve, and disturbance history and regime (per conversations with Michael Scalici, project design consultant for the Port of Bandon<sup>1</sup>, 3/13/01).

Actions that do not maintain or restore properly functioning aquatic habitat conditions have the potential to jeopardize the continued existence of OC coho salmon.

## **1.5. Analysis of Effects**

### **1.5.1. Effects of Proposed Action**

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document, *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of proposed actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the project area.

The proposed action has the potential to cause the following impacts to threatened OC coho salmon or their designated critical habitat:

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<sup>1</sup> Per conversations between Nikki Moore, National Marine Fisheries Service, and Michael Scalici, project design consultant (Natural Resources Consulting for the New Millennium), on March 13, 2001 (discussing environmental baseline for Coquille estuary).



1. Coho salmon utilizing the constructed channels and wetland may become stranded between tidal exchanges.

Following the connection of the constructed channels, access will be restored for salmonids to utilize the wetland area. Coho salmon that utilize the channels and wetland as a foraging area, may become stranded for periods between the next incoming tide. Stranding has the potential of harming fish by affecting migration timing, increasing the chance of predation, and potentially exposing coho to high water temperatures. The amount of adverse impacts to coho would depend on the number of fish utilizing the project area, depth of channels, holding pools, and the wetland, cover and the duration and extent of tidal influence.

Other potential adverse impacts include sedimentation that may occur following the connection between constructed channels and the Coquille River. Precipitation could cause some erosion of the work area before streambank vegetation has re-established, although since the spit is primarily sand, this is expected to be negligible. This could have the potential to create temporary displacement of juvenile salmonids downstream.

2. Riparian function will be impaired, causing indirect adverse impacts to coho.

Channel construction will result in minor loss of riparian function by the removal of herbaceous vegetation. This will result in a short-term (less than two years) loss of primary production and temporary bank instability. The vegetation is primarily yarrow, twinberry, and spike rush. Vegetation loss will be mitigated by replanting with grasses, willows, and other native vegetation.

The effects of these activities on OC coho salmon and aquatic habitat factors will be limited by implementing construction methods and approaches in project design that are intended to avoid or minimize impacts. These include:

- All in-water work will be conducted during the ODFW in-water work period of October 1 to February 15, or within an ODFW authorized departure from that window. This will avoid impacts to migrating adult OC coho.
- All construction will occur at low tides to minimize and/or eliminate turbidity.
- Large wood will be added to provide cover within channels and in pools.
- Alteration and disturbance of stream banks and existing riparian vegetation will be minimized to the extent possible. No trees will be removed. When working within the two-year floodplain, bank protection material will be placed to maintain normal waterway configuration.
- The amount of erosion and sedimentation during construction will be minimized through the use of specific erosion control measures that will prevent the entry of sediment into the Coquille River.

- No rip rap will be used.
- Riparian vegetation in the project vicinity will be replanted with native vegetation.

For the proposed action, the NMFS expects that the effects of the proposed project will tend to maintain each of the habitat elements over the long term. However, in the short term, a temporary increase in sediment entrainment and turbidity, and disturbance of riparian and instream habitat is expected. The potential net effect from the proposed action, including proposed replanting, is expected to maintain existing habitat conditions for OC coho salmon.

### **1.5.2. Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for OC coho consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, input of large woody debris or organic matter, and others.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project site and watershed scales. The results of this evaluation, based on the “matrix of pathways and indicators” (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale” (NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species and assesses the constituent elements of critical habitat. An assessment of the essential features of OC coho critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

The proposed actions will occur within critical habitat. In the short term, a temporary increase of sediments and turbidity and disturbance of riparian and instream habitat is expected. In the long term, however, riparian function will be restored because planting native grasses, shrubs and trees will provide shading improve bank stability over time. Consequently, NMFS does not expect that the net effect of this action will diminish the long-term value of the habitat for survival or recovery of OC coho.

### **1.5.3. Cumulative Effects**

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area is defined as the six acre wetland area and newly constructed channels, and downstream 100-feet within the Coquille Estuary. The project actions consist of excavating new channels, constructing pools, and placing logs within the new channels. The

Port of Bandon has a project planned at the west end of the spit, adjacent to the project area. The project will include the installation of untreated wood pilings to capture large wood and other material at the mouth of the project area.

## **1.6. Conclusion**

NMFS has determined, based on the available information, that the proposed action is expected to maintain properly functioning stream habitat conditions within the action area over the long term. As such, the proposed action covered in this Opinion is not likely to jeopardize the continued existence of OC coho salmon. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it could cause minor, short-term impacts from sediment, in-water construction, and the potential for fish stranding. These effects will be mitigated over the long term through the implementation of vegetative replanting, restoring fish habitat, and creating cover within channels pools. Direct harm to juvenile coho because of altered rearing and migration behavior may occur during the in-water work period of project activities, but not at a level that would jeopardize OC coho salmon.

## **1.7. Reinitiating of Consultation**

Consultation must be reinitiated if: 1) The amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; 2) new information reveals effects of the action may affect listed species in a way not previously considered; 3) the action is modified in a way that causes an effect on listed species that was not previously considered; or 4) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To reinitiate consultation, the Corps must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

## **2. INCIDENTAL TAKE STATEMENT**

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

## **2.1. Amount or Extent of the Take**

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of OC coho salmon because of potential effects of fish being stranded between tidal exchanges within the project area. Effects of actions such as these are largely unquantifiable in the short and long term, but are not expected to be measurable as long-term effects on coho habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological assessment, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Opinion. The extent of the take is limited to within the area of project disturbance, extending from the six acre wetland area and newly constructed channels, to 100 feet downstream within the Coquille River.

## **2.2. Reasonable and Prudent Measures**

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities at the project site, and stranding during tidal changes, measures shall be taken to limit the duration and extent of in-water work, to time such work when the impacts to OC coho are minimized, and to maintain favorable fish passage conditions.
2. To minimize the amount and extent of incidental take from construction activities in or near the channels, effective erosion and pollution control measures shall be developed and implemented throughout the area of disturbance and for the life of the project. The measures shall minimize the movement of soils and sediment both into and within the river, and will stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take from loss of instream habitat and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and instream habitat, or where impacts are unavoidable, to replace or restore lost riparian and instream function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures, plantings for site restoration, and plant establishment shall be monitored and

evaluated both during and following construction, and meet criteria as described below in the terms and conditions. After construction, water depth, water temperature, and fish use will be monitored.

### **2.3. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. Implementation of the terms and conditions within this Opinion will further reduce the risk of impacts to fish within the wetland. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure # 1 (in-water work) above, the Corps shall ensure that:
  - a. Work will not inhibit passage of any adult or juvenile salmonid species throughout the construction period or after project completion. All constructed stream channels must comply with ODFW guidelines and criteria for fish passage. These include maintenance of a gradient or slope that does not exceed 0.5% unless a tailwater situation exists to backwater the channel to a suitable depth for its length, and compliance with any applicable provisions of the Oregon fish passage statutes.
  - b. All work within the active channel will be completed within ODFW's in-water work period (October 1 to February 15). Any additional extensions of the in-water work period will first be approved by, and coordinated with, NMFS and ODFW.
  - c. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration.
2. To implement reasonable and prudent measure # 2 (construction activities) above, the Corps shall ensure that:
  - a. Effective erosion control measures shall be in-place at all times during the contract. Construction within the project vicinity will not begin until all temporary erosion controls (e.g., hay bales and/or sediment traps) are in place. Erosion control structures will be maintained throughout the life of the contract.
  - b. All exposed areas will be replanted with a native grasses. Erosion control planting will be completed on all areas of bare soil within 14-days of completion of construction.
  - c. All equipment that is used for instream work will be cleaned prior to entering the two-year floodplain. External oil and grease will be removed, along with dirt and mud.

Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.

- d. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic habitat. Conservation of topsoil (removal, storage and reuse) will be employed.
- e. Project actions will follow all provisions of the Clean Water Act (40 CFR Sub-chapter D) and DEQ's provisions for maintenance of water quality standards. Toxic substances shall not be introduced above natural background levels in waters of the State in amounts which may be harmful to aquatic life, and any turbidity caused by this project shall not exceed DEQ water quality standards, as described in Oregon Administrative Rules (OARs) Division 41.
- f. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the contract administrator to ensure compliance with this PCP. The PCP shall include the following:
  - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, equipment storage sites, fueling operations and staging areas.
  - ii. Methods for confining and removing and disposing of excess construction materials, and measures for equipment washout facilities.
  - iii. A spill containment and control plan that includes: notification procedures; specific containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
  - iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
  - v. The person identified as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
- g. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 100 feet away from the two-year floodplain of any waterbody. Overnight storage of wheeled vehicles must occur at least 100 feet away from the two-year floodplain of any waterbody. Overnight storage of non-wheeled vehicles is allowed within the two-year floodplain during the in-water work window; however, to minimize the risk of fuel reaching the water, refueling of these vehicles should not occur after 1:00 pm (so the vehicles do not have full tanks overnight).

- h. Hazmat booms will be installed in all aquatic systems where:
    - i. Significant in-water work will occur, or where significant work occurs within the five-year floodplain of the system, or where sediment/toxicant spills are possible.
    - ii. The aquatic system can support a boom setup (i.e. the creek is large enough, low-moderate gradient ).
  - i. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
  - j. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. To implement reasonable and prudent measure # 3 (riparian habitat protection) above, the Corps shall ensure that:
- a. Alteration of native vegetation will be minimized. Where possible, native vegetation will be clipped by hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. reed canary grass), although no chemical treatment of invasive species will be used.
  - b. Riparian vegetation removed will be replaced with native grasses, shrubs, and trees. Replacement will occur within the project vicinity.
  - c. Failed plantings and structures will be replaced, if replacement would potentially succeed. If not, plantings at other appropriate locations will be done.
4. To implement reasonable and prudent measure # 4 (riparian habitat protection) above, the Corps shall ensure that:
- a. Erosion control measures as described above in 2(a) shall be monitored.
  - b. All significant riparian replant areas will be monitored to insure the following:
    - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
    - ii. Plantings are performing correctly and have an adequate success rate (success rate depends on the planting density, but the goal is to have a functional riparian vegetation community).

- c. A plant establishment period (three year minimum) will be required for all riparian mitigation planting. In extremely unstable or unproductive areas, the Corps may be released from the establishment period and develop a larger replanting area to compensate for this.
- d. Monitoring of the project area to document habitat use and suitability by salmon will be completed for a 5 year period. Species presence and relative abundance, water and temperature, qualitative fish stranding observations shall be made weekly during the outmigration period of March through June.
- e. An annual monitoring report will be submitted to NMFS in December 31 of the first year following construction (December 31, 2001), and each year thereafter for five years. The annual monitoring report will describe the results of the monitoring accomplished for this project. The report will summarize all actions completed, and provide an evaluation of any fish use in the project area, including the take of listed species that may occur. The annual report will be submitted to:

National Marine Fisheries Service  
Oregon State Branch Office, Habitat Conservation  
Attn: OSB2000-0295  
525 NE Oregon Street, Suite 500  
Portland, Oregon 97232-2778

### **3. ESSENTIAL FISH HABITAT**

#### **3.1. Background**

The objective of the Essential Fish Habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

#### **3.2. Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include



aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

### **3.3. Identification of EFH**

The Pacific Fisheries Management Council (PFMC) has designated EFH for federally-managed fisheries within the waters of Washington, Oregon, and California. The designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon and California, seaward to the boundary of the U.S. exclusive economic zone (370.4 km)(PFMC 1998a, 1998b). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years)(PFMC 1999). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border.

Detailed descriptions and identifications of EFH for the groundfish species are found in the Final Environmental Assessment/Regulatory Impact Review for Amendment 11 to The Pacific Coast Groundfish Management Plan (PFMC 1998a) and the NMFS EFH for West Coast Groundfish Appendix (Casillas *et al.* 1998). Detailed descriptions and identifications of EFH for the coastal pelagic species are found in Amendment 8 to the Coastal Pelagic Species Fishery Management Plan (PFMC 1998b). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of the potential adverse effects to these species' EFH from the proposed action is based on this information.

### **3.4. Proposed Actions**

The proposed action is detailed above in section 1.2. The action area includes the Coquille River estuary. This area has been designated as EFH for various life stages of groundfish, coastal pelagics and salmon (Table 1).

### **3.5. Effects of Proposed Action**

As described in detail in section 1.5.1, the proposed activities may result in detrimental short- and long-term adverse effects to a variety of habitat parameters. These impacts include the following: 1) Fish using the constructed channel may become stranded between tidal exchanges; 2) riparian function will be impaired over the short term; 3) turbidity and sedimentation in the estuary may increase over the short term.

### **3.6. Conclusion**

NMFS believes that the proposed action may adversely affect the EFH for the groundfish, coastal pelagic, and Pacific salmon species listed in Table 1.

Table 1. Species with designated EFH found in waters of the State of Oregon.

<b>Ground Fish Species</b>	Blue rockfish ( <i>S. mystinus</i> )	Rougheye rockfish ( <i>S. aleutianus</i> )	Flathead sole ( <i>Hippoglossoides elassodon</i> )
Leopard shark ( <i>Triakis semifasciata</i> )	Bocaccio ( <i>S. paucispinis</i> )	Sharpchin rockfish ( <i>S. zacentrus</i> )	Pacific sanddab ( <i>Citharichthys sordidus</i> )
Soupfin shark ( <i>Galeorhinus zyopterus</i> )	Brown rockfish ( <i>S. auriculatus</i> )	Shortbelly rockfish ( <i>S. jordani</i> )	Petrale sole ( <i>Eopsetta jordani</i> )
Spiny dogfish ( <i>Squalus acanthias</i> )	Canary rockfish ( <i>S. pinniger</i> )	Shortraker rockfish ( <i>S. borealis</i> )	Rex sole ( <i>Glyptocephalus zachirus</i> )
Big skate ( <i>Raja binoculata</i> )	Chilipepper ( <i>S. goodei</i> )	Silvergray rockfish ( <i>S. brevispinus</i> )	Rock sole ( <i>Lepidopsetta bilineata</i> )
California skate ( <i>R. inornata</i> )	China rockfish ( <i>S. nebulosus</i> )	Speckled rockfish ( <i>S. ovalis</i> )	Sand sole ( <i>Psettichthys melanostictus</i> )
Longnose skate ( <i>R. rhina</i> )	Copper rockfish ( <i>S. caurinus</i> )	Splitnose rockfish ( <i>S. diploproa</i> )	Starry flounder ( <i>Platyichthys stellatus</i> )
Ratfish ( <i>Hydrolagus colliei</i> )	Darkblotched rockfish ( <i>S. crameri</i> )	Stripetail rockfish ( <i>S. saxicola</i> )	
Pacific rattail ( <i>Coryphaenoides acrolepis</i> )	Grass rockfish ( <i>S. rastrelliger</i> )	Tiger rockfish ( <i>S. nigrocinctus</i> )	<b>Coastal Pelagic Species</b>
Lingcod ( <i>Ophiodon elongatus</i> )	Greenspotted rockfish ( <i>S. chlorostictus</i> )	Vermillion rockfish ( <i>S. miniatus</i> )	Northern anchovy ( <i>Engraulis mordax</i> )
Cabezon ( <i>Scorpaenichthys marmoratus</i> )	Greenstriped rockfish ( <i>S. elongatus</i> )	Widow Rockfish ( <i>S. entomelas</i> )	Pacific sardine ( <i>Sardinops sagax</i> )
Kelp greenling ( <i>Hexagrammos decagrammus</i> )	Longspine thornyhead ( <i>Sebastolobus altivelis</i> )	Yelloweye rockfish ( <i>S. ruberrimus</i> )	Pacific mackerel ( <i>Scomber japonicus</i> )
Pacific cod ( <i>Gadus macrocephalus</i> )	Shortspine thornyhead ( <i>Sebastolobus alascanus</i> )	Yellowmouth rockfish ( <i>S. reedi</i> )	Jack mackerel ( <i>Trachurus symmetricus</i> )
Pacific whiting (Hake) ( <i>Merluccius productus</i> )	Pacific Ocean perch ( <i>S. alutus</i> )	Yellowtail rockfish ( <i>S. flavidus</i> )	Market squid ( <i>Loligo opalescens</i> )
Sablefish ( <i>Anoplopoma fimbria</i> )	Quillback rockfish ( <i>S. maliger</i> )	Arrowtooth flounder ( <i>Atheresthes stomias</i> )	
Aurora rockfish ( <i>Sebastes aurora</i> )	Redbanded rockfish ( <i>S. babcocki</i> )	Butter sole ( <i>Isopsetta isolepsis</i> )	<b>Salmon</b>
Bank Rockfish ( <i>S. rufus</i> )	Redstripe rockfish ( <i>S. proriger</i> )	Curlfin sole ( <i>Pleuronichthys decurrens</i> )	Coho salmon ( <i>O. kisutch</i> )
Black rockfish ( <i>S. melanops</i> )	Rosethorn rockfish ( <i>S. helvomaculatus</i> )	Dover sole ( <i>Microstomus pacificus</i> )	Chinook salmon ( <i>O. tshawytscha</i> )
Blackgill rockfish ( <i>S. melanostomus</i> )	Rosy rockfish ( <i>S. rosaceus</i> )	English sole ( <i>Parophrys vetulus</i> )	

### **3.7. EFH Conservation Recommendations**

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation measures that the Corps has built into the project are generally applicable to EFH for the designated species, and are intended minimize the potential adverse effects to EFH. However, these measures do not address the potential impacts described above. Consequently, the NMFS recommends that the Corps adopt the reasonable and prudent measures and associated terms and conditions of the incidental take statement as EFH conservation recommendations.

### **3.8. Statutory Response Requirement**

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Corps to provide a written response to NMFS' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NMFS' conservation recommendations, the reasons for not implementing the Corps shall explain its reasons for not following the recommendations.

### **3.9. Consultation Renewal**

The Corps must reinitiate EFH consultation with NMFS if either action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920).

## **4. LITERATURE CITED**

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

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